

**REMARKS**

The applicants and the undersigned thank Examiner Moore for a careful review of this application. Consideration of the present application is respectfully requested in view of the foregoing amendments and the following remarks, which are responsive to the Official Action mailed December 8, 2003. In the Official Action, the Examiner rejected Claims 1-4, 6-9, and 11-28.

Claims 1-4, 6-9, and 11-28 are pending in the present application. The independent claims are 1, 9, 16, 22, 23, and 26, as amended.

Applicant also notes two typographical errors in the Preliminary Amendment that Applicant submitted to the Patent Office on January 2, 2002 in the present patent application. Applicant's name is erroneously listed as "Edward I. Comer, Jr." Applicant's correct name is "Edward I. Comer," as it appears above. That Preliminary Amendment shows the title of the application as "Multiple Wireless Data Transport System." The correct title of the application is "Multiple Wireless Data Transport Transceiver System," as it appears above. These errors occurred without deceptive intent.

**I. Independent Claims 1, 9, 16, 22, 23 and 26 are Patentable over the Cited Prior Art**

The Examiner rejected independent Claims 1, 9, 16, 22, 23, and 26 based on the assertion that these claims are obvious over U.S. Patent No. 6,154,658 to *Caci* in view of U.S. Patent No. 6,370,135 to *Gardner*. Applicant offers the following remarks to traverse the pending rejections.

A. **Independent Claim 1 is Distinguishable from the Asserted Combination of *Caci* and *Gardner***

Claim 1, as amended, is a system claim for communicating packets comprising data content in a cellular mobile radiotelephone (CMR) system. This independent claim recites a controller that selects a wireless data transport (WDT) transceiver for communicating a packet in response to analyzing characteristics of data content based on a plurality of weighted selection criteria.

Applicant respectfully submits that Claim 1, as amended, is not obvious over the *Caci* patent in view of the *Gardner* patent because this claim recites at least three features that are neither taught nor suggested by *Caci*, by *Gardner*, or by the combination of *Caci* and *Gardner*. As a first distinguishing feature, Claim 1 recites analyzing data content based on a plurality of weighted selection criteria. Communicating different packets using different WDTs by completing an analysis of data content is a second distinguishing recitation of Claim 1. Furthermore, the recitation in Claim 1 of analyzing data content on a dynamic, real time basis distinguishes the invention of Claim 1 from the cited references.

Applicant agrees with the Examiner that *Caci* does not disclose transceiver selection in response to analyzing characteristics of data content on a dynamic, real time basis. Applicant further emphasizes that *Caci*'s teachings contrast with an analysis based on weighted selection criteria. *Caci* teaches that during normal operations only a specific mode of communication will be used. See *Caci* column 9, lines 48-51. *Caci* further teaches engaging a backup mode of communication only when the primary mode is unavailable or when there is an emergency situation. See *Caci* column 9, lines 57-61. The transition in *Caci* between normal mode operation and backup mode operation for communications is based on an operational mode

decision and is not completed in response to an analysis of characteristics of data content on a dynamic, real time basis.

With regard to the *Gardner* patent, while it may teach switching between communication modes based on an amount of data to be transferred, which is presumed to correlate to the costs of data transfer, *Gardner* does not teach analyzing data content based on a plurality of weighted selection criteria or switching between communications modes based on such analysis. Rather, *Gardner* teaches that the cost of transferring a particular data file is a function of the size of the data file and a carrier's charge for each packet in the file. In *Gardner*, this principle supports computing the cost of transferring a specific file for each of two transfer modes and selecting the mode with the lowest cost. See *Gardner* column 15, line 63 through column 16, line 34 and Claims 39, 40, and 41. *Gardner* discloses the use of a single factor -- cost of transmission -- to support a selection of communication modes, while amended Claim 1 requires an analysis of data content based on multiple weighted selection criteria to select a WDT transceiver corresponding to an identified WDT. Applicant respectfully submits that the invention of amended Claim 1 contrasts with selecting a mode based on a monetary computation as taught by *Gardner*.

Regarding the Examiner's asserted combination of the individual teachings of *Gardner* and *Caci*, the combination of references does not teach the selection of a WDT transceiver in response to analysis of data content based on weighted selection criteria.

In contrast to single-criterion teachings of *Gardner* and *Caci*, amended Claim 1 recites analyzing characteristics of data content based on a plurality of weighted selection criteria. For example, the present application discloses selecting a WDT transceiver corresponding to an

identified WDT based on weighing multiple selection criteria, including communication cost latency, time of day, availability of preferred communication network, message priority, and location relative to the recipient. See page 14, line 28 through page 15, line 4 of the present application. In contrast to *Gardner*, an analysis of data content based on multiple weighted selection criteria supports selecting an appropriate WDT transport technology best suited to accomplish communication objectives that are not necessarily motivated by a singular economic consideration or other factor.

In addition to being distinguished from the cited references with regard to analyzing based on weighted selection criteria, amended Claim 1 recites communicating different packets using different WDTs by completing an analysis of data content. With regards to this recitation, neither *Caci*, nor *Gardner*, nor the combination of *Caci* and *Gardner* teach communicating different packets using different WDTs. *Caci* teaches switching from a primary communication mode, which during normal operations is only used, to a secondary mode in response to an emergency situation or upon moving into a geographic area that lacks infrastructure for the primary mode. See *Caci* column 9 lines 45- 63. *Gardner* teaches changing a WDT transceiver from one mode of communication to another in response to the cost for communicating a data file having a certain file size (rather than a data packet). See *Gardner* column 15, line 66 through column 16, line 4. In contrast to *Caci* and *Gardner*, Claim 1 recites a packet-level selection of a WDT transceiver corresponding to an identified WDT in the CMR system to support communication of different packets using different WDTs available within the operating environment. Applicant emphasizes that communicating different packets using different WDTs

as required by amended Claim 1 is distinct from conventional packet-based routing during communication transport with a specific WDT technology.

As the third distinguishing feature between Claim 1 and the references cited by the Examiner, Claim 1 recites completing an analysis of data content on a dynamic, real time basis. Applicant agrees with the Examiner that *Caci* does not disclose transceivers selected in response to analyzing data content on a dynamic, real time basis. However, Applicant points out that *Gardner* also does not disclose analyzing data content on a dynamic, real time basis. In *Gardner*, an automatic decision is made to change communication modes in response to a determination of a size of a data file that contains multiple data packets. See *Gardner* column 15, line 66 through column 16, line 4 and column 16 lines 24-28. Although *Gardner* may teach automatically changing communication modes on a file-by-file basis, such functions are not analyzing data content of a packet on a dynamic, real time basis. *Gardner* teaches operating at a file level which does not provide dynamic, real time analysis of content as required by Claim 1.

**B. Independent Claims 9 and 16 are Patentable over the *Caci* and *Gardner* Patents**

Claim 9, as amended, recites selecting wireless data transports on a packet-by-packet basis based upon a data content characteristic. Meanwhile, amended Claim 16 recites selecting wireless data transports based upon an analysis of a volume of data content on a packet-by-packet basis. Applicant respectfully submits that the inventions of Claims 9 and 16, as amended, are not rendered obvious by the asserted combination of *Caci* and *Gardner* because neither *Caci* nor *Gardner*, nor the combination of *Caci* and *Gardner* teach selecting wireless data transports on a packet-by-packet basis. Furthermore, these references, individually or in combination, do not teach analysis of a volume of data content on a packet-by-packet basis.

*Caci* teaches switching from a primary communication mode to a secondary mode on a situation-by-situation basis, specifically in response to an emergency situation or upon moving into a region that is void of support for the primary communication mode. See *Caci* column 9 lines 45-63. *Gardner* teaches changing from one mode of communication to another mode on a file-by-file basis based on transmission cost. See *Gardner* column 15, line 66 through column 16, line 4. In contrast to changing modes on a situational basis, as taught by *Caci*, and changing modes on a file basis, as taught by *Gardner*, the inventions of Claims 9 and 16 respectively require selecting WDTs on a packet-by-packet basis and analyzing data content on a packet-by-packet basis.

With the amendments presented by Claims 9 and 16, applicant emphasizes the distinction between packets and files for the communication of data on a packet-by-packet basis. A packet is a unit of data that is routed between an origin and a destination on a packet-switched network. In contrast, when a file is sent from one place to another on a packet-switched network, it is divided into packets of an efficient size for routing. By convention, each of these packets is separately numbered and includes the address of the destination. When all of the packets have arrived at a destination, they are reassembled into the original data file. See *Gardner* column 2, lines 62-65 and column 16, lines 13-34.

In addition to selecting WDTs on a packet-by-packet basis, the invention of Claim 9 requires communicating with the selected WDTs according to the packet-by-packet selection. Meanwhile, the invention of Claim 16 requires communicating with selected WDTs on a packet-by-packet basis in addition to requiring an analysis of a volume of data content on a packet-by-packet basis. In contrast to these requirements for the inventions of Claims 9 and 16, *Gardner*

discloses selecting a single communication mode for an entire file and transmitting the entire file using the single communication mode. See *Gardner* column 12, lines 56-60. In further contrast, *Caci* discloses dedicating a communication mode to an entire situation then transmitting information associated with the situation via the dedicated mode. See *Caci* column 9 lines 57-63. Although a packed-switched network based on a single WDT may provide in-network switching that routes one packet differently from another packet when both packets have the same origin and destination, such routing is not communicating using different WDTs for different packets according to the requirements of Claims 9 and 16.

**C. Independent Claims 22 and 26 are Distinguishable from *Caci* and *Gardner***

Amended Claims 22 and 26 respectively recite a memory storage device and a system for communicating a message. A weighted combination of selection criteria supports selecting a wireless data transport for the communication of a message. Applicant respectfully submits that neither *Caci*, nor *Gardner*, nor the combination of *Caci* and *Gardner* renders amended Claims 22 and 26 obvious because these references neither disclose nor suggest weighing a combination of selection criteria to select a technology for wireless data transport.

Weighing a combination of selection criteria, as required by Claims 22 and 26, as amended, to select a wireless data transport involves considering at least two factors in a manner that can provide a different selection outcome based on the weight of each factor. For example, selection criteria might be expected latency and time of day, while the respective conditions might be ten seconds and noon. These conditions alone do not determine a specific wireless data transport until an appropriate weight is applied to each criterion. That is, the conditions may

result in at least two possible outcomes from which a single outcome is derived from the application of the weight and the selection criteria.

Applicant further respectfully emphasizes that the references asserted by the Examiner do not disclose basing a selection of an identified wireless data transport on a weighted combination of selection criteria. Although *Caci* may disclose switching between a normal mode of communication and a backup mode of communication in an emergency situation, weighing is not involved with this process. See *Caci* column 9, lines 45-63.

The relationship of the process steps in Claim 22 further distinguishes that claim from *Gardner* and *Caci*. Claim 22 recites: identifying WDTs; selecting an identified WDT based on volume; selecting an identified WDT based on a weighted combination of alternative selection criteria; and if the WDT selected based on volume is the WDT selected based on a weighted combination of selection criteria, then using that WDT, otherwise using the WDT selected based the alternative selection criteria. While *Gardner* may teach selecting a transport based on a volume of a file in order to provide cost-effective transport and *Caci* may teach selecting a transport based a factor other than file size or cost, the alleged combination of *Gardner* and *Caci* does not disclose the invention of Claim 22.

Neither *Gardner*, nor *Caci*, nor the combination of *Gardner* and *Caci* teach selecting a WDT using a multi-stage process. In contrast to *Gardner* and *Caci*, the process of Claim 22 determines a WDT for communicating in a message in two stages. The first stage comprises two selection steps ((1) selecting an identified WDT based on volume; and (2) selecting an identified WDT based on a weighted combination of alternative selection criteria), while the second stage (if the WDT selected based on volume is the WDT selected based on a weighted combination of



selection criteria, then using that WDT, otherwise using the WDT selected based the alternative selection criteria) makes the final selection by comparing the results of the two steps in the first stage.

**D. Independent Claim 23 is Patentable over the Cited Prior Art References**

As amended, Claim 23 is a system claim that recites a selection algorithm based on a heuristic process to support a learning capability based upon prior communication operations. A heuristic process can derive an appropriate solution to a problem in successive stages, each reducing the possible solutions derived from previous stages. A learning capability can derive results from experience and consequently provides adaptability to dynamic conditions.

In contrast to the adaptability provided by the invention of Claim 23, *Gardner* discloses using traditional, nonflexible logic to select a transport mode. See *Gardner* column 15, line 66 - column 16, line 34. Such traditional programming logic is not based on heuristics and does not support a learning capability based upon prior communication operations. Likewise, *Caci* does not disclose a learning capability or a heuristic process associated with selecting a mode of communication. Rather, in *Caci*, selection of a communication mode follows tradition, algorithmic logic. See *Caci* column 9, lines 45-63.

The Examiner rejected Claim 25, which depends from Claim 23, based on alleged language differences between Claim 23 and the specification of the current patent application. The Examiner noted that original Claim 25 recited a “selection algorithm based on a heuristic process having a learning capability for prior message communication operations,” while the specification recited “heuristic process to support a learning capability based upon prior

communication operations.” The Examiner, however, did not find Claim 25 obvious over the prior art.

Claim 23, as amended, incorporates language that is descriptive of a selection algorithm based on the disclosed heuristic process and is in keeping with the language in the specification. Applicant respectfully submits that amended independent Claim 23 is in condition for allowance.

**II. Dependent Claims Comprise Recitations that are Distinguishable from the Cited Prior Art**

If an independent claim is allowable, then the claims dependent thereon should also be allowable because they add limitations to the independent claim. *In re Fine*, 5 U.S.P.Q.2d 1596, 1599 (Fed. Cir. 1988). In view of the foregoing remarks with respect to independent Claims 1, 9, 16, 22, 23, and 26, as amended, Applicant respectfully submits that each dependent claim is patentable over the combinations of the cited patents. The amended dependent claims also recite features further defining the present invention over the cited references, and Applicant submits that the cited documents do not disclose or suggest integrating those features into the presently claimed invention. Accordingly, Applicant requests separate and individual consideration of each dependent claim and respectfully requests that the Examiner withdraw the rejection of dependent Claims 2-4, 6-8, 11-15, 17-21, 24, 25, 27, and 28.

**III. Traversal of Claim Rejections Under 35 U.S.C. § 112**

The Examiner rejected Claims 1-4, 6-8, and 23-28 under 35 U.S.C. § 112, first paragraph, based on the language “a plurality of wireless data transport (WDT) transceivers each capable of supporting wireless data communications with the CMR system by a plurality of WDTs.”

Applicant respectfully requests that the Examiner withdraw the rejection in view of the amended claims.

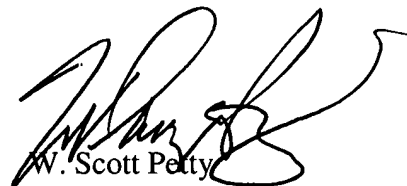
The Examiner rejected Claim 25 under 35 U.S.C. § 112, first paragraph, based on differences between wording of this claim and wording in the specification at page 12, lines 31-33 of the current application. Prior to the current amendment, Claim 25 recited “the selection algorithm based on a heuristic process having a learning capability for prior message communication operation,” while the specification recited “can be based on a heuristic process to support a learning capability based upon prior communication operations.” While Applicant respectfully maintains that the specification supports the pre-amendment claim language, “the selection algorithm based on a heuristic process having a learning capability for prior message communication operation,” Claim 25, as amended, no longer recites such language. Applicant respectfully requests that the Examiner withdraw the rejection.

The Examiner also objected to Claims 6, 7, and 20 because of informalities. Applicant respectfully requests that the Examiner withdraw the objections in light of the amendments to the pending claim set.

**CONCLUSION**

The foregoing is submitted as a full and complete response to the Official Action mailed December 8, 2003. Applicant thanks Examiner Moore for his consideration of the amendments. Applicant has shown that the pending claims are allowable and allowance of the claims is respectfully requested. It is believed that this response places the application in condition for allowance. Such action is courteously requested. If there are any issues that can be resolved with an Examiner's Amendment or a telephone conference, a telephone call to the undersigned attorney at 404.572.2888 is respectfully requested.

Respectfully submitted,

  
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